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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,146	06/24/2002	Klaus Winter	10191/2063	9486

7590 11/19/2007

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EXAMINER	
PIERRE LOUIS, ANDRE	
ART UNIT	**PAPER NUMBER**
2123	
MAIL DATE	**DELIVERY MODE**
11/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/980,146	WINTER ET AL.	
	Examiner	Art Unit	
	Andre Pierre-Louis	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-11* is/are pending in the application.

4a) Of the above claim(s) *9 and 10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-8 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 December 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 9/06/2007 has been received and fully considered.

2. Claims 9 and 10 have been withdrawn from consideration and claim 11 is added.; now claims 6-8, and 11 are presented for examination.

3. The rejection under 35 USC 102 has been withdrawn by the Examiner in view of the amendment.

Specification/Drawings

4. The drawings are objected to because they contain hand written labels, as previously pointed out in the other office actions *(see for example fig.2)*. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Arguments

5. Applicant's arguments filed 09/06/2007 have been fully considered but they are not persuasive.

5.1 Applicant argues that Nier and Hering do not disclose the carrying out, the correlating, and outputting steps of the claims, The Examiner respectfully disagrees and notes that Nier et al., used as the primary reference, substantially teaches a method and system for the allocation of vehicles to traffic lane in a multi lane roadway *(see for example fig.1 (I, II, III), col.2 lines 46-54),* including obtaining information on specific lane in which the vehicles are traveling *(see col.2 lines 55-58)*. Nier et al. continues to teach that a trailing vehicle can distinguish, by way of frequency allocation/correlation, in which lane a leading vehicle is located and store the frequency distribution in a table like manner on the traffic lane *(see col.5 line 23-col.6 line 41)*. Although, Nier et al. does not clearly state the term correlating the frequency, as clearly points out in the office action, he does teach a system that measures the distance for spacing of moving vehicles, such as an ACC system and further teaches a multi-lane road with vehicles (*11, 12, 13*) in fig.1 equipped with receiver/transmitter for receiving and transmitting lane information of moving vehicles during the vehicle lane allocation in the multi-lane road *(col.5 line 23-col.6 line 68)*. Nevertheless, Hering et al., used as the secondary reference for further support in the rejection of the instant claims, substantially teaches a system for lane allocation including means for correlating frequency distribution and a radar detection circuit in communication with a record module for allocating vehicle in a multi-lane roads and recording/storing images of the lane model *(see fig.1-3, col.2 line 64-col.3 line 4; also see col.4 lines 15-68)*. With regards to Applicant's assertion that the references do not store frequency

distributions of lateral displacements, the Examiner asserts that, as clearly points out above in the response, the combined references do substantially teaches storing and/recording the frequency distribution of the lane model *(see for example Nier et al. col.6 lines 37-41; also see Hering et al. fig.1-3).*

5.2 While the applicants believe that the independent claims along with their dependencies should be found allowable, the examiner respectfully disagrees and asserts that the combined teachings of the references cited teach the entire claimed invention. The Applicant is further encouraged to review the references cited not used in the rejection below. Found the applicants arguments non-persuasive, the examiner maintains the rejection of the independent claims along with their dependencies.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.0 Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nier et al. (U.S. Patent No. 4,063,237), in view of Hering et al. (U.S. Patent No. 5,440,109).

6.1 With regards to claims 6-8, Nier et al. substantially teaches a method for a motor vehicle having adaptive distance and speed control for lane allocation of consecutive vehicle on a multi-lane roads (*fig.1-2, title, col.2 lines 46-54*), and particularly teaches the step of: carrying out the lane allocation in a model-based manner via a frequency distribution of lateral displacement of detected radar objects *(see fig.3-4, col.2 lines 46-65, col.5 line 23-col.6 line 41)*;

means for correlating a determined frequency distribution with one of (a) stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a define width and (b) characteristic lateral displacement histograms for different lanes used by succeeding vehicle *(fig.3-4, col.5 line 36-col.6 line 41; also see table 1)*; means for outputting a model part having a highest correlation to the determined frequency distribution as a lane hypothesis, the lane hypothesis including a number of lanes and a lane used by one's own vehicle *(fig.3 (38,39), fig.6-7, col.5 line 36-col.6 line 41)*. Although, Nier et al. does not clearly state the term correlating the frequency, he teaches a system that measures the distance for spacing of moving vehicles, such as an ACC system (*see title*) and further teaches a multi-lane road with vehicles (*11, 12, 13*) in fig.1 equipped with receiver/transmitter for receiving and transmitting lane information of moving vehicles during vehicle allocation in multi-lane road. Nevertheless, Hering substantially teaches a system for lane allocation including means for correlating frequency distribution and a radar detection circuit in communication with a record module for allocating vehicle in a multi-lane roads and recording a image of the a lane model *(see fig.2, col.2 line 64-col.3 line 4; also see col.4 lines 15-56)*. Nier et al. and Hering et al. are analogous art because they are from the same field of endeavor and that the system teaches by Hering is similar to that of Nier et al. Therefore it would have been obvious to one ordinary skilled in the art at the time of the applicant's invention to combine the system of Hering with distance measuring system of Nier et al. because Hering teaches the advantage of using the localization means in addition to existing communication module for the exact localization of the vehicle (*col.2 lines 14-23*).

6.2 As per claim 11, the combined teachings of Nier et al. and Hering et al. substantially teach a method for determining lane allocation of consecutive vehicles on multi-lane road, the method comprising: determining lateral displacements of radar sensor detected objects relative to a longitudinal vehicle axis, wherein the lane allocation is implemented in a model-based manner via a frequency distribution of the lateral displacements of the radar sensor detected *(see Nier et al. fig.3-4, col.2 lines 46-65, col.5 line 23-col.6 line 41; also see Hering et al. fig.1-3)* ; determining a histogram of a frequency distribution of the lateral displacements *(see Nier et al.fig.3-4, col.5 line 36-col.6 line 41, table ; also see Hering et al. fig.1-3)*; correlating the histogram to store a lane models *(see col.5 line 23-col.6 line 41; also see Hering fig.2-3);* detecting an instantaneously driving lane of the multi-lane roadway based on a lane model having a greatest correlation to a lateral-offset histogram *(see col.5 line 23-col.6 line 41; also see Hering et al. fig.2).*

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7.1 Kinoshita et al. (U.S. Patent No. 5,642,093) teaches a warning system for vehicle, including an image recognizing means and off-lane possibility estimating means.

8. Claims 1-5 are canceled, claims 9-10 are withdrawn , and claim 11 is added.

9. Claims 6-8, and 11 are rejected and **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Pierre-Louis whose telephone number is 571-272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 15, 2007

APL

PAUL RODRIGUEZ
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